

## CLAIMS

What is claimed is:

1. A method comprising:

5           accessing a link utilization limit at a node of a network;  
             comparing said link utilization limit to a utilization of a link coupled  
to said node; and  
             excluding said link from a virtual circuit if said utilization of said link  
is greater than said link utilization limit.

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2. The method of Claim 1 wherein said utilization of said link  
comprises bandwidth of said virtual circuit.

15           3. The method of Claim 1 wherein said link utilization limit is included  
in an initial attempt to establish said virtual circuit.

4. The method of Claim 1 wherein said link utilization limit is included  
in an attempt to groom said virtual circuit.

20           5. The method of Claim 4 wherein said link utilization limit is included  
in a soft reroute setup message.

6. The method of Claim 4 wherein said link utilization limit is included  
in a generic application transport information element.

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7. The method of Claim 1 wherein said node is included in an asynchronous transfer mode network.

8. A system for routing a virtual circuit comprising:  
5 means for accessing a link utilization limit at a node of a network;  
means for comparing said link utilization limit to a utilization of a first link coupled to said node; and  
means for selecting a second link coupled to said node to participate in a virtual circuit if said utilization of said first link is greater than said link utilization limit.  
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9. The system of Claim 8 wherein said utilization of said first link comprises bandwidth of said virtual circuit.

15 10. The system of Claim 8 further comprising means for performing said comparing in an initial attempt to establish said virtual circuit.

11. The system of Claim 8 further comprising means for performing said comparing in an attempt to groom said virtual circuit.

20 12. The system of Claim 11 wherein said link utilization limit is included in a soft reroute setup message.

25 13. The system of Claim 11 wherein said link utilization limit is included in a generic application transport information element.

14. The system of Claim 8 wherein said node is included in an asynchronous transfer mode network.

5        15. A method of routing information packets in a network, said method comprising:

computing a cost for each of a plurality of links of said network,

wherein said cost comprises utilization of said plurality of links; and

routing said information packets via a link having a lowest said

10        cost.

16. The method of Claim 15 wherein said cost is less for a given link for a first utilization of said given link than for a second utilization of said given link, wherein said first utilization of said given link is less than said second utilization of said given link.

17. A network switch apparatus comprising:
- a plurality of couplings to access a plurality of links;
  - a switching fabric to selectively couple information among said plurality of links;
- 5           a computer system coupled to said switching fabric to control said switching fabric; and
- a computer-readable medium having computer-readable program code embodied therein for causing said network switch apparatus to perform a method, said method comprising:
- 10           accessing a link utilization limit;
- comparing said link utilization limit to a utilization of one of said plurality of links coupled to said network switch apparatus; and
  - excluding said one of said plurality of links from a virtual circuit if said utilization of said link is greater than said link utilization limit.
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18. The network switch apparatus of Claim 17 wherein said link utilization limit is included in an initial attempt to establish said virtual circuit.
19. The network switch apparatus of Claim 17 wherein said link utilization limit is included in an attempt to groom said virtual circuit.
20. The network switch apparatus of Claim 17 wherein said link utilization limit is included in a soft reroute setup message.

21. A computer-readable medium having computer-readable program code embodied therein for causing a network switch apparatus to perform a method, said method comprising:

accessing a link utilization limit;

5 comparing said link utilization limit to a utilization of a link coupled to said network switch apparatus; and

excluding said link from a virtual circuit if said utilization of said link is greater than said link utilization limit.

10 22. The computer-readable medium of Claim 21 wherein said link utilization limit is included in an initial attempt to establish said virtual circuit.

23. The computer-readable medium of Claim 21 wherein said link utilization limit is included in an attempt to groom said virtual circuit.

15 24. The computer-readable medium of Claim 21 wherein said link utilization limit is included in a soft reroute setup message.

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